

REMARKS

On entry of this Response, claims 1-28 are pending in the instant application, of which claims 12, 13, 19 and 21-26 were withdrawn in response to the Examiner's restriction requirement. Amongst remaining claims 1-11, 14-18, 20, 27 and 28, claims 1, 8, 14, 27 and 28 are independent. Applicants respectfully submit that the pending claims define over the prior art of record.

I. Claim Rejection under 35 U.S.C. §102(b)

Claims 1-3, 5, 7-11, 14-18, 20, 27 and 28 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Publication No. 2002/0143327 (hereafter "Schluzas"). Applicants respectfully traverse the rejection.

A. Claim 1

Claim 1 recites:

1. A connector for connecting a first spinal rod and a second spinal rod, comprising:
a housing component for connecting a first spinal rod and a second spinal rod, the first spinal rod supporting a first vertical region of a spine, the second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine, the housing component defining a first bore hole for receiving a portion of the first rod, the first bore hole extending along a first longitudinal axis and a second bore hole for receiving a portion of the second rod, the second bore hole extending along a second longitudinal axis that is parallel to the first longitudinal axis; and
a locking element for securing one of the first rod within the first bore hole and the second rod within the second bore hole,
wherein the first longitudinal axis is configured to be offset in a sagittal plane from the second longitudinal axis by a predetermined offset distance when the connector connecting the first and second spinal rods is implanted in a patient.

Applicants respectfully submit that Schluzas fails to disclose at least the following feature of claim 1: "a housing component for connecting a first spinal rod and a second spinal

rod, the first spinal rod supporting a first vertical region of a spine, the second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine.”

Schluzas describes a transverse connector (12) connecting the spinal rods (14, 16) to each other. See Schluzas, abstract. In Schluzas, the spinal rods (14, 16) support the same vertical region of a spine. See Schluzas, Figure 1.

In comparison, claim 1 requires a housing component for connecting a first spinal rod supporting a first vertical region of a spine, and a second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine. In claim 1, the housing component is configured or structured to connect spinal rods supporting different vertical regions of the spine. Schluzas does not disclose a connector for connecting spinal rods that support different vertical regions of the spine.

In the Office Action, the Examiner asserts that “a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinct the claimed invention from the prior art,” and that “[i]f the prior art structure is capable of performing the intended use, then it meets the claim.” See the Office Action, page 4. Applicants respectfully disagree.

Applicants respectfully submit that the claim language describing the housing component in claim 1 is not a recitation of intended use. Rather, the housing component is defined *structurally* in claim 1. The housing component recited in claim 1 includes *a first bore hole* for receiving a portion of the first rod supporting the first vertical region of a spine, and *a second bore hole* for receiving a portion of the second rod supporting a second vertical region of the spine other than the first vertical region of the spine. In claim 1, the first and second bores of the housing component is configured or structured for connecting a first spinal rod supporting a first vertical region of a spine, and a second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine. Therefore, the housing component is defined structurally in claim 1, and the claim language describing the housing component is not a recitation of intended use.

In the Office Action, the Examiner also asserts that “the device of Schluzas comprises a housing connecting spinal rods that support different lateral, vertical regions of the spine (i.e., there is more than one vertical region in that there are the opposed lateral vertical regions about each rod).” See the Office Action, page 4. Applicants respectfully disagree.

The Examiner appears to deem that the opposed lateral regions of *the same vertebrae* correspond to the first and second regions of the spine recited in claim 1. However, claim 1 recites a first vertical region of a spine and a second vertical region of the spine other than the first vertical region of the spine. Accordingly, the first and second vertical regions of a spine recited in claim 1 include *different vertebrae*. The Schluzas reference does not disclose a connector connecting spinal rods that support different vertebrae.

In the Office Action, the Examiner further asserts that “the housing is capable of connecting rods in an offset configuration due to the articulated connection of the housing such that different vertical regions of the spine are capable of being supported by each rod connected by the housing.” See the Office Action, page 4. Applicants respectfully disagree.

The Schluzas reference does not disclose that “different vertical regions of the spine are capable of being supported by each rod connected by the housing,” as asserted by the Examiner. Rather, the Schluzas reference describes that the transverse connector (12) connects two spinal rods (14, 16) that secure the same vertebrae. See the Schluzas reference, Figure 1 and paragraph [0011]. There is no disclosure in the Schluzas reference of a connector connecting spinal rods that support different vertical regions of a spine.

Furthermore, the connector (12) described in the Schluzas reference cannot be used as the claimed housing component for connecting spinal rods that support different vertical regions of a spine, as required by claim 1. In the Schluzas reference, the connecting rod (28) is *deformable* to allow a slight bending of the connecting rod (28). See the Schluzas reference, paragraph [0023]. In contrast, the housing component recited in claim 1 is *rigid* for connecting spinal rods that support different vertical regions of a spine. See the specification, page 5, lines 1-5. Therefore, the connector (12) described in the Schluzas reference cannot be used for connecting spinal rods that support different vertical regions of a spine, as required by claim 1.

For at least the reasons set forth above, Applicants respectfully submit that Schluzas does not disclose each and every feature of claim 1. Accordingly, Applicants respectfully request withdrawal of the rejection of claim 1 under 35 U.S.C. §102(b).

B. Claims 2, 3, 5 and 7

Claims 2, 3, 5 and 7 depend from claim 1 and, as such, incorporate all of the features of claim 1. For at least the reasons set forth above with respect to claim 1, Applicants respectfully submit that Schluzas does not disclose each and every feature of claims 2, 3, 5 and 7. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 2, 3, 5 and 7 under 35 U.S.C. §102(b).

C. Claim 8

Claim 8 Recites:

8. A connector for connecting a first spinal rod and a second spinal rod, comprising:
- a housing component for connecting a first spinal rod and second spinal rod, the first spinal rod supporting a first vertical region of a spine, the second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine*, the housing component defining a first bore hole extending along a first longitudinal axis for receiving a portion of the first rod and a second bore hole extending along a second longitudinal axis that is non-parallel and non-perpendicular with the first longitudinal axis for receiving a portion of the second rod; and
- a locking element for securing one of the first spinal rod within the first bore hole and the second spinal rod within the second bore hole.

As discussed above, Schluzas fails to disclose at least the following feature of claim 8: “a housing component for connecting a first spinal rod and second spinal rod, the first spinal rod supporting a first vertical region of a spine, the second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine.” Therefore, Applicants respectfully submit that Schluzas does not disclose each and every feature of claim 8. Accordingly, Applicants respectfully request withdrawal of the rejection of claim 8 under 35 U.S.C. §102(b).

D. Claims 9-11

Claims 9-11 depend from claim 8 and, as such, incorporate all of the features of claim 8. For at least the reasons set forth above with respect to claim 8, Applicants respectfully submit that Schluzas does not disclose each and every feature of claims 9-11. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 9-11 under 35 U.S.C. §102(b).

E. Claim 14

Claim 14 recites:

14. A connector for connecting a first spinal rod and a second spinal rod, comprising
- a first housing component defining a first bore hole for receiving a portion of the first rod, the first spinal rod supporting a first vertical region of a spine, the first bore hole extending along a first longitudinal axis; and
 - a second housing component coupled to the first housing component and defining a second bore hole extending along a second longitudinal axis that is parallel with the first longitudinal axis, *the second bore hole being movable relative to the first bore hole for receiving a portion of the second rod, the second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine;*
- wherein, the coupled first housing and second housing connect the first and second rods.

Applicants respectfully submit that Schluzas fails to disclose at least the following features of claim 14: “the second bore hole being movable relative to the first bore hole for receiving a portion of the second rod, the second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine.”

As discussed above, Schluzas does not disclose a connector for connecting spinal rods that support different regions of the spine. Therefore, Applicants respectfully submit that Schluzas does not disclose each and every feature of claim 14. Accordingly, Applicants respectfully request withdrawal of the rejection of claim 14 under 35 U.S.C. §102(b).

F. Claims 15-18 and 20

Claims 15-18 and 20 depend from claim 14 and, as such, incorporate all of the features of claim 14. For at least the reasons set forth above with respect to claim 14, Schluzas does not disclose each and every feature of claims 15-18 and 20. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 15-18 and 20 under 35 U.S.C. §102(b).

G. Claim 27

Claim 27 recites:

27. A connector for connecting a first spinal rod and a second spinal rod, comprising:
a housing component for connecting a first spinal rod and a second spinal rod, the first spinal rod supporting a first vertical region of a spine, the second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine, the housing component defining a first bore hole for receiving a portion of the first rod, the first bore hole extending along a first longitudinal axis and a second bore hole for receiving a portion of the second rod, the second bore hole extending along a second longitudinal axis that is parallel with the first longitudinal axis; and
a locking element for securing one of the first spinal rod within the first bore hole and the second spinal rod within the second bore hole,
wherein the first longitudinal axis is configured to be offset from the second longitudinal axis in a first plane by a first predetermined offset distance and by a second predetermined offset distance in a second plane that is perpendicular to the first plane.

As discussed above, Schluzas fails to disclose at least the following feature of claim 27: “a housing component for connecting a first spinal rod and a second spinal rod, the first spinal rod supporting a first vertical region of a spine, the second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine.” Therefore, Applicants respectfully submit that Schluzas does not disclose each and every feature of claim 27. Accordingly, Applicants respectfully request withdrawal of the rejection of claim 27 under 35 U.S.C. §102(b).

H. Claim 28

Claim 28 recites:

28. A connector for connecting a first spinal rod and a second spinal rod, comprising:

a housing component for connecting a first spinal rod and a second spinal rod, the first spinal rod supporting a first vertical region of a spine, the second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine, the housing component having a top surface, a bottom surface, a front surface and a back surface, the housing component defining a first bore hole for receiving a portion of the first rod, the first bore hole extending from the front surface to the back surface along a first longitudinal axis and a second bore hole for receiving a portion of the second rod, the second bore hole extending from the front surface to the back surface along a second longitudinal axis; and

a locking element inserted through the top surface for securing one of the first spinal rod within the first bore hole and the second spinal rod within the second bore hole,

wherein the first bore hole is offset from the second bore hole, such that said first bore hole is closer to the bottom surface of the housing than the second bore hole.

As discussed above, Schluzas fails to disclose at least the following feature of claim 28: “a housing component for connecting a first spinal rod and a second spinal rod, the first spinal rod supporting a first vertical region of a spine, the second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine.” Therefore, Applicants respectfully submit that Schluzas does not disclose each and every feature of claim 28. Accordingly, Applicants respectfully request withdrawal of the rejection of claim 28 under 35 U.S.C. §102(b).

II. Claim Rejection under 35 U.S.C. §103(a)

Claims 4 and 6 are rejected under 35 U.S.C. §103(a) as being unpatentable over Schluzas in view of US 5,053,034 to Olerud *et al.* (hereafter “Olerud”). Applicants respectfully traverse the rejection.

Claims 4 and 6 depend from claim 1 and, as such, incorporate all of the features of claim 1.

Applicants respectfully submit that Schluzas and Olerud, alone or in any combination, fail to teach or suggest “a housing component for connecting a first spinal rod and a second spinal rod, the first spinal rod supporting a first vertical region of a spine, the second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine,” as recited in claims 4 and 6.

Schluzas does not teach or suggest the above feature.

Olerud is cited to provide teachings for the teeth recited in claims 4 and 6. Olerud discusses a spinal joint for use in spinal surgery includes two blocks pivotally connected to each other. See Olerud, abstract. Olerud, however, does not teach or suggest at least “a housing component for connecting a first spinal rod and a second spinal rod, the first spinal rod supporting a first vertical region of a spine, the second spinal rod supporting a second vertical region of the spine other than the first vertical region of the spine,” as recited in claims 4 and 6. Although Olerud is combined with Schluzas, the combination does not teach or suggest the claimed feature. Both references are silent about a connector for connecting spinal rods that support different regions of a spine.

For at least the reasons set forth above, Applicants respectfully submit that Schluzas and Olerud, alone or in any combination, fail to teach or suggest all of the features of claims 4 and 6. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 4 and 6 under 35 U.S.C. §103(a).

III. Conclusion

In light of the above arguments, Applicants respectfully submit that all of the pending claims are in condition for allowance. Should the Examiner feel that a teleconference would expedite the prosecution of this application, the Examiner is urged to contact the Applicants' attorney at (617) 227-7400.

Please charge any shortage or credit any overpayment of fees to our Deposit Account No. 12-0080, under Order No. DUQ-002RCE2. In the event that a petition for an extension of time is required to be submitted herewith, and the requisite petition does not accompany this response, the undersigned hereby petitions under 37 C.F.R. § 1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized to be charged to the aforementioned Deposit Account.

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Respectfully submitted,

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